

**INSTITUT FRANÇAIS DU PETROLE**

**METHOD FOR MODELLING FLUID FLOWS**

**IN A FRACTURED MULTILAYER POROUS MEDIUM**

**AND CORRELATIVE INTERACTIONS IN A PRODUCTION WELL**

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## METHOD FOR MODELLING FLUID FLOWS

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## ABSTRACT

- Method for modelling fluid flows in a fractured multilayer porous medium by taking account of the real geometry of the fracture network and the local exchanges between the porous matrix and the fractures at each node of the network, thus allowing simulation of the interactions between the pressure and flow rate variations in a well running across said medium. The method essentially comprises discretization of the fractured medium by means of a mesh pattern, with fracture meshes centred on nodes at the various intersections of the fractures, each node being associated with a matrix volume, and determination of the flows between each fracture mesh and the associated matrix volume in a pseudosteady state. The method can be applied in hydrocarbon production well testing for example.